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From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
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Subject: Info-Hams Digest V93 #1118  
To: Info-Hams

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Today's Topics:

                    amplifier cavity design  
                    Q-codes.

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
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Problems you can't solve otherwise to brian@ucsd.edu.

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We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 20 Sep 1993 04:54:25 -0500  
From: usc!cs.utexas.edu!not-for-mail@network.ucsd.edu  
Subject: amplifier cavity design  
To: info-hams@ucsd.edu

For a long time I'm looking for the mathematics behind amplifier cavity  
design. Designing an amplifier with a  $1/4$  ( $3/4$  or  $5/4$ ) wavelength Lecher is  
not a problem. The mathematics and formulas are widely available.  
Theory and practice coincide well.  
Looking at several cavity designs of tube amplifiers in the 1 - 3 GHz range  
it seems that one mode is common: TEM<sub>101</sub> (I'm not sure if this is correct).  
One can determine that for a circular cavity the diameter is related  
to half the wavelength and depends on the capacitance of the tube being used.  
The height, mostly fixed due to the physical properties of the tubes,  
determines the cavity impedance, I'm told.  
I asked numerous SHF-heroes about the formulas behind the cavities. Nobody  
could give me a satisfying answer. In fact, most 'designers' admitted that  
they used the trail and error approach.  
Looking in several books (electronic engeneering, physics, etc) the theory  
behind cavities is explained. But I've never seen a publication where  
a tube (read: capacitance) is introduced and with what effect on the physical

properties of the cavity.

I want to design an amplifier for 1296 MHz (23 cm amateurband) with a tube but I will not use the 3/4:5/4 wavelength approach.

Anyone in net.land who has info, examples or references on this subject?

Thanks in advance,

Remco, PA3FYM (besten@chem.ruu.nl)

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Date: Mon, 20 Sep 1993 10:08:03 GMT  
From: news.Hawaii.Edu!uhunix3.uhcc.Hawaii.Edu!jherman@ames.arpa  
Subject: Q-codes.  
To: info-hams@ucsd.edu

In article <8gbG7eS00UhB84=1t9@andrew.cmu.edu> ee2g+Charles@andew.cmu.edu writes:

>  
>I'm wondering if the Q code QAT means anything?  
>  
>Any ideas out there in net land?  
>  
>  
>N3QAT  
>Chuck Kamas  
>ee2g+Charles@andrew.cmu.edu

Ah yes, this Q-code had a very unusual origin: Most folks don't realize this but the small fruit called a kumquat has a laxative effect similar to the prune. Several oldtimers used to gather on 80 meters CW and discuss the wonders of the of the kumquat. Well, it was a rather long word to spell out in CW so they all agreed to make up the Q-code QAT; in use one would ask: "QAT?" meaning "Did you have your kumquats today", to which the other would respond "QAT5" - "I had 5 kumquats today".

Aren't Q-codes and their history great?

Jeff NH6IL

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End of Info-Hams Digest V93 #1118

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